For Debate

Social policy as a cause of childhood accidents: the children of lone mothers

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Almost one in five British mothers is a lone mother. Their children have injury rates that are twice those of children in two parent families. In this article the link between lone parenthood and childhood injury is examined. The increased injury rates for the children of lone mothers can be explained by the poverty, poor housing conditions, and social isolation of lone mothers in Britain. The problem of reconciling the demands of paid work with the demands of the unpaid work of childrearing is particularly difficult for lone mothers, who find themselves in a benefit dependent poverty trap. Many such mothers would seek paid work if affordable day care were available. Day care would also provide a safe environment for their children, who are otherwise exposed to the environmental hazards of poor housing. Provision of day care is a social policy that would have important effects on the health and welfare of lone mothers and their children. These effects deserve to be properly evaluated.

Since the early 1970s the number of one parent families in Britain has increased by between 30 000 and 40 000 a year. Currently there are over one million lone parent families in Britain, about 21% of all families with children. Nine out of 10 of these families are headed by a mother.¹ The children of lone mothers have the highest death rates of all social groups. In a reanalysis of British census data, the children of "unoccupied" parents, of whom an estimated 89% are unemployed single mothers, had a death rate 42% higher than children in social class V, the poorest socioeconomic group.² Injuries were responsible for 60% of the deaths among the children of lone mothers.²

The strong association between single parenthood and risk of childhood injury is well established from epidemiological studies. McCormick *et al* examined the sociodemographic correlates of injury in the first year of life in a cohort of children drawn from eight regions of the United States.³ The cumulative incidence of injury in the children of lone mothers was twice that in children in two parent families (13.9% *v* 6.7%). In Canada, Larson and Pless examined risk factors for injury in a cohort of children followed up from birth until the age of 3 years.⁴ Lone parenthood was the strongest sociodemographic predictor of injury (relative risk 2.0 (95% confidence interval 1.5 to 2.6)), mostly of falls in the home. Similarly, Wadsworth *et al* examined data from a five year follow up of a cohort of 17 588 British children born in 1970.⁵ The hospital admission rate for injury among the children of lone mothers was twice that among children in two parent families. Lone parenthood is also a risk factor for traffic

injuries. The risk of pedestrian injury is over 50% higher for the children of lone mothers.⁶

In this article we examine the link between lone parenthood and childhood injury. We argue that the association is most readily explained in terms of the economic and social resources of lone mothers, in particular, by their poverty, poor housing, and social isolation. These three elements feature highly in the lives of British lone mothers and each is strongly related to child injury risk. Finally, we argue that the wider provision of affordable care for children during the day (day care) has the potential to sever this link, and so greatly improve the health of these vulnerable children.

Poverty

In his comprehensive study of poverty in the United Kingdom, Townsend found one parent families to be one of the poorest groups in the population.⁷ Forty nine per cent were living in or on the margins of poverty, compared with 26% of two parent families. These data were collected over 25 years ago, but there is no evidence that current times are different. According to a 1990 report by the Child Poverty Action Group, 47% of single parents live in poverty (receive less than half the average income after housing costs) compared with 20% of two parent families.⁸

The primary sources of income in single parent families are spousal maintenance, benefits, and paid employment. For most single mothers maintenance payments constitute an insignificant source of income. Many absent fathers are unable to provide for two households, and the logistics of collecting payments are formidable. Miller estimates that maintenance payments are an important part of household income in only 6% of single parent families.⁹ Government benefits undoubtedly keep many of these families fed and clothed, but in no way do they offer an exit from poverty. The only way that these parents can escape the poverty trap is through paid employment.

Because of the constraints imposed by the demands of child care, single parents face formidable barriers to securing paid employment.¹⁰ Sex discrimination in the labour market and the lack of affordable day care effectively limit the employment opportunities of lone mothers.¹⁰ In 1992, 24% of lone mothers with children under 4 years old were employed, compared with 47% of mothers in two parent families.¹¹ Bradshaw and Millar found that 73% of lone mothers were dependent on income support at the time of the survey.¹²

The strong association between injury and poverty is the most consistent finding in published epidemiological studies of childhood injury. The association is

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present in all age groups, and it applies to all types of injury apart from drowning in a swimming pool. Children in social class V are 10 times more likely than those in the highest social class to die as a result of a fall at home. The association between injury and poverty is particularly strong for traffic accidents, and the link is readily explained. For injuries to child pedestrians the number of roads that children cross is a key determinant of the occurrence of injury. Children in families with the lowest quarter of income cross 50% more roads than those in families in the highest quarter.¹⁴ Consistent with this is the finding that lack of access to a car is associated with a doubling of the risk of injury as a pedestrian.¹⁵

Housing

Because most deaths and serious injuries to pre-school children occur in the home, housing is an important factor in childhood accidents.¹⁶ The evidence that lone parents are particularly disadvantaged in their housing therefore provides another explanation for the excess of injuries experienced by their children. Low incomes, and a tendency to view lone parents as less deserving tenants, has resulted in their concentration in the most dilapidated housing on the most undesirable urban estates.¹⁰ Discrimination against lone parents in the housing market was one of the main findings of the Finer report of 1974, which was commissioned by the Department of Health and Social Security.¹⁷ The report found that these parents were much less likely to own their own homes and were more likely to be tenants or homeless. The housing of lone mothers who have never been married is particularly precarious: many share accommodation with friends or relatives and move often.

The type and quality of housing are strongly associated with childhood injury. The injury rates for children in temporarily housed homeless families are exceptionally high.¹⁸ In the case of pedestrian injuries, children from homes without a play area are at greatly increased risk (odds ratio 5.3 (2.6 to 11.0)).¹⁹ About a fifth of pedestrian accidents entail very young children being injured by a vehicle backing out of a driveway. The risk is over three times higher for children living in homes where there is no fence separating the drive from the play area and where the drive is shared with other households.²⁰ Residential fires are the second leading cause of death in British children. The risk of death in a house fire is higher in older houses, rented accommodation, mobile homes, and homes without

telephones or smoke detectors.²¹ Single mothers and their children are overrepresented in these types of accommodation.

Social isolation

Apart from the effects of poverty and poor housing a lack of social support networks also has an important role in childhood injury. The past two decades have witnessed a striking increase of interest in the health effects of social support.²² Social support can be defined as "information leading the subject to believe that [she] is cared for and loved, esteemed and a member of a network of mutual obligations."²³ Most simply, social support is the resources provided by others.²² Ample evidence suggests that social support promotes health.²² In the context of child rearing the spousal relationship can be an important source of tangible, emotional, and informational support. Because lone mothers are unable to access these resources they represent an unsupported group. We emphasise, however, that male partners are not invariably supportive. Oakley *et al* found that adverse events in the lives of male partners may be an important part of the stress in women's lives.²⁴ The support provided to women by their mothers or by other members of the extended family network may often be more important.

An insight into the role of maternal support in the aetiology of childhood injury was provided in a case-control study of injury to child pedestrians in New Zealand.⁶ The effect of lone parenthood on the risk of pedestrian injury was strikingly different according to ethnic group. In families of European origin single parenthood was associated with a greatly increased risk of injury (relative risk 3.2 (1.8 to 5.3)), whereas in families of Pacific Island origin it was associated with a significant protective effect (relative risk 0.4 (0.2 to 0.9)). This protective effect may be a manifestation of the support provided by extended family networks. Whereas 29% of all single parent families in New Zealand reside with others, 45% of single parent families of Pacific Island origin do so. Pacific Islanders are one of the most disadvantaged groups in New Zealand, so marriage may provide little in the way of material benefits. Any positive effects of marrying may be outweighed by the detrimental effects of severing supportive links with an extended family.

Still more compelling evidence for the role of maternal support in the aetiology of childhood injury is the evidence from randomised controlled trials of interventions to provide support to mothers. Several such studies have found that the provision of additional support to mothers with young children reduces the frequency of injury in their children.^{25,26} The mechanism is unclear, but it may be related to the effect of support on maternal psychological health. Lack of support is an established risk factor for maternal depression, which in turn is a risk factor for childhood injury.²⁷⁻³⁰

Thus far, poverty, poor housing, and social isolation have been considered separately. In reality, these elements are strongly interrelated. Recent evidence suggests that low social support may, at least in part, be a consequence of poverty.³¹ Similarly, poor housing and many moves of house will thwart the development of supportive social ties. The pernicious admixture of these factors probably underlies the increased injury rates in the children of lone mothers.

Day care: a healthy social policy for lone parents

The poverty, poor housing, and social isolation of lone mothers in Britain are neither inevitable nor irremediable. Rather, they are the result of deliberate

Nursery school in France—enabling mothers to return to work

SIMON SHEPARD/IMPACT

The number of roads that children cross largely determines the occurrence of injury

social policies. Lone parents in France are substantially better off. French lone parent families are only slightly more likely than two parent families to be classed as "poor".¹⁰ Probably the most important reason for the comparative disadvantage of British lone parents is the lack of affordable day care. By enabling lone mothers to enter the workforce, day care offers an escape from poverty. Employment also provides an opportunity for social interaction and might go some way to remedy the social isolation of lone mothers. Eighteen per cent of British lone mothers with children under 5 are employed (full time or part time), compared with 53% in France and 70% in Denmark.¹¹ In Britain there are publicly funded places for day care for 2% of children under 3 years old compared with 20% in France and 48% in Denmark.¹¹

Evidence that the provision of day care may be an effective antipoverty policy for lone parent families is provided by randomised controlled trials. The infant health and development programme was a randomised trial of the effect of family support on the health of low birth weight premature infants.³² The intervention entailed home visiting during the first year of life followed by a child development programme based at a centre in the second and third years. Mothers in the intervention group were employed for a significantly greater number of months than control group mothers (1.84 months, $P=0.04$). Subgroup analyses showed that the effects on maternal employment were greatest in the least well educated mothers. These effects are consistent with the results of previous smaller trials. Although the effects are modest they are significant. It would be reasonable to expect a greater effect on maternal employment among single mothers.

There is also evidence that day care has a long term antipoverty effect on the children who attend. The Perry preschool project was a randomised controlled trial of day care that was initiated in Michigan in 1962. One hundred and twenty three disadvantaged children aged 3 and 4 years were randomly allocated to an experimental group that received 2.5 hours of pre-school education at the centre daily for two years, or to a control group that received no preschool education. At school entry the mean intelligence quotient (IQ) of the experimental group (94) was significantly higher than that of the control group (83). Astonishingly, at the age of 27 the experimental group had significantly higher earnings and were more likely to be home owners.^{33,34}

Providing lone mothers with an opportunity for employment and the chance to extricate themselves from poverty is a legitimate societal goal in itself. Nevertheless, there are grounds to believe that the

provision of day care would also result in a reduction in childhood injury. Firstly, McCormick *et al* found that the effect of lone parent status on the risk of injury applied only when the lone mother was unemployed.³ The risk in children of employed single mothers was similar to that in children from two parent families. Secondly, because the safety of the environment of a day care centre can be regulated, day care can provide a safe environment for children who would otherwise be exposed to the environmental hazards of living in poverty.

To date, three studies have examined the relative safety of day care and home care. Two studies conducted in the United States found lower injury rates during day care in a centre. Rivara *et al* estimated an injury rate in day care centres of 2.5 per 100 000 child hours compared with 4.88 per 100 000 child hours in home care.³⁵ Gunn *et al* used data from a nationwide telephone survey and estimated an injury rate of 1.69 per 100 000 child hours for day care centres compared with 2.66 for home care.³⁶ A Swedish study, however, found the opposite, reporting an injury rate of 1.98 per 100 000 child hours in day care centres compared with 1.54 per 100 000 child hours in home care (relative risk 1.27 (1.04 to 1.54)).³⁷ Cohort studies such as these face serious methodological challenges, notably the problem of controlling for confounding. Some day care centres accept only children who are toilet trained and thus may preferentially select more developmentally mature children, who would also have lower injury rates. The effect of day care on childhood injury remains open to question until measured experimentally.

Conclusion

Regardless of the availability of day care many lone mothers will opt to remain at home, especially those with very young children. For these families social security payments are an essential, if meagre, source of income. Upgrading the housing stock and the development of effective support strategies are critical health issues for these mothers. Many single mothers would, however, seek work if good and affordable day care were available. The provision of affordable day care has the potential to transform the social position of these families. If, as we have argued, the associations between poverty, poor housing, and social isolation and childhood injury are causal then this would also result in a reduction in rates of injury in children. The provision of day care is a social policy intervention with potential impact on the health and welfare of mothers and children. These effects deserve to be properly evaluated. Advocates of evidence based social policy make a strong case.³⁸ But in the absence of the political will to undertake such research, the same arguments are a straitjacket on social innovation and an excuse for apathy.

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Voluntary, named testing for HIV in a community based antenatal clinic: a pilot study

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Despite the increasing advantages of identifying HIV infection in pregnant women, only some 12% of HIV positive women attending antenatal clinics in London have been identified by named testing. As virtually all antenatal care will be community based within the next two to three years, we assessed the problems of introducing named HIV testing during pregnancy into the primary care setting. Planning the service took a considerable time and required the production of educational material for both staff and pregnant women and some reorganisation of procedures. Over a one year period an uptake of 44% was noted. Several problems were encountered including an average of 21 minutes needed to give information on AIDS and HIV, an adverse effect on the midwife-mother relationship, and anxiety (affecting both women and midwives). Possible solutions to this difficult problem are discussed.

The need for a change in screening policy

Anonymous testing for HIV infection among pregnant women has shown that the prevalence of the infection among women attending community antenatal clinics and hospital based antenatal clinics at St Thomas's Hospital rose from 0.05% to 0.44% between 1988 and 1990¹ and that in London it has risen steadily from 0.18% in 1990 to 0.26% in 1993 (range 0-0.5%).^{2,3} Such studies have also shown the association of HIV infection in pregnancy with such recognised risk factors as African ethnicity and injected drug use.^{4,5} Relatively few pregnant women, however, are tested on a named basis, and throughout London only 12% of those found to be positive by anonymised testing were identified by named testing in antenatal clinics.^{3,6} The Department of Health considers this lack of named testing and identification to be a matter of "considerable public concern."⁷

However, some pregnant women do not understand

the concept of anonymous testing, think that they have had a named test, and assume that they are HIV negative when they are not informed otherwise.⁷ A recent survey of 374 women attending antenatal clinics based at St Thomas's Hospital showed that only 131 (35%) pregnant women knew about the anonymous screening programme, and only 38 (29%) of these women were aware that they had been screened as part of this programme. Only 19 (5%) women who were questioned fully understood what anonymous unlinked screening meant, and 138 (37%) believed that they would be told if the result was positive. Older and more educated women were more likely to understand (JK, unpublished results).

In view of the increasing benefits to both mother and child of identifying HIV infection in pregnancy,⁸⁻¹² the Department of Health issued guidelines recommending that named testing be made available to all pregnant women in areas of relatively high prevalence.^{13,14} Although named HIV testing is available on request in most antenatal clinics in the United Kingdom, only four clinics offered the test to all women in 1993,⁸ and those clinics were apparently hospital based. Most antenatal care, however, is now undertaken in the community by midwives and general practitioners, and virtually all antenatal care for women at low risk of complications is expected to be community based within the next two or three years.¹⁵ Consequently, if the Department of Health's guidelines are to be implemented named testing for HIV will have to be provided in primary care.

Implementing Department of Health's guidelines—pilot project

Testing for HIV in primary care may pose different problems from those encountered in hospitals. We therefore initiated a pilot project to assess the introduction of routine HIV testing in pregnancy into the practice attached to the department of general practice

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